Wikiprint Book

Title: Intel Advisor XE (Vectorisation analysis)

Subject: DEEP - Public/User_Guide/IA

Version: 3

Date: 29.03.2024 12:36:55

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Intel Advisor XE (Vectorisation analysis)

Version 0.1, 09.01.2017
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Load the necessary modules

```
$ module load Intel
$ module load Advisor
```

Analysis

This tool analyses SIMD vectorisation of programs compiled with Intel compiler. Please add "-g" to the compile line.
The analysis is done in several steps. The results of each step are accumulated into the current display.
All steps can be done using the Advisor GUI:

```
$ advixe-gui
```

For analysis on clusters it may be good to do these steps using the command line interface because there might be no X connection.

Getting help:

```
$ advixe-cl --help > advisor_help.txt
```

Getting help on collection:

```
$ advixe-cl --help collect > advisor_help_collect.txt
```

Survey analysis (light weight profiling):

```
$ advixe-cl --collect survey --project-dir ADV -- $PRG $FLAGS
```

Analyse survey results - subset of loops printed in csv format:

```
$ advixe-cl --report=survey -format=csv --project-dir ADV | cut -d "," -f 1,2,3,5,6 > survey_short.txt
```

- —> Shows all loops. Loops that are not vectorised are marked with "SCALAR". Note the IDs (first column) of the top scalar loops for later use.
  —> Can be also viewed by the GUI.

  Trip count and flops analysis:

```
$ advixe-cl --collect tripcounts -flops-and-masks --project-dir ADV -- $PRG $FLAGS
```

Dependency analysis for Loop ID=5 shows to be scalar in survey above (for example, you may have other IDs):

```
$ advixe-cl --collect dependencies -mark-up-list=5 --project-dir ADV -- $PRG $FLAGS
```

Map (memory) analyis for the above loop showing stride:

```
$ advixe-cl --collect map -mark-up-list=5 --project-dir ADV -- $PRG $FLAGS
```

- —> view results with GUI or ASCII report

  Generate snapshot (compressed result file). Can be copied to another computer and analysed:

```
$ advixe-cl --snapshot --project-dir ADV --pack --cache-sources --cache-binaries -- snapshot_01
```

- —> Open snapshot by starting the GUI and select "open result".